



STAT*2040 Statistics I

Winter 2022

Section: DE01

Department of Mathematics and Statistics

Credit Weight: 0.50

Course Details

Calendar Description

This course focuses on the practical methods of Statistics and the topics include: descriptive statistics; univariate models such as binomial, Poisson, uniform and normal; the central limit theorem; expected value; the t, F and chi-square models; point and interval estimation; hypothesis testing methods up to two-sample data; simple regression and correlation; introduction to analysis of variance. Assignments will deal with real data from the natural sciences and involve the use of statistical software for computing and visualization.

Pre-Requisite(s): 1 of 4U Calculus and Vectors, Advanced Functions and Calculus, OAC Calculus, MATH*1080

Co-Requisite(s): None

Restriction(s): STAT*2060, STAT*2080, STAT*2120, STAT*2230

Method of Delivery: Online

Final Exam

Date: Tuesday, April 19, 2022

Time: 2:30 PM to 4:30 PM

Note: Please read the important information about exam timing in the **Assessment Description** section under **Final Exam** in this Outline.

Location: Online via the **Quizzes** tool in CourseLink

Instructional Support

Instructor

Jeremy W. Balka

Email: jbalka@uoguelph.ca

Office: 550 MacNaughton

Learning Resources

Required Textbook

Title: Introductory Statistics Explained (PDF)

Author(s): Jeremy Balka

Edition / Year: Edition 1.10 / 2021

Title: Suggested Exercises and Answers for Introductory Statistics Explained

Author(s): Jeremy Balka

The textbook(s) are provided on the course website in PDF format (free of charge).

Supplementary Materials

This course includes supplementary materials. These materials are meant to supplement the required readings and course content. You can explore the materials at your own pace. To access these materials, select **Content** on the navbar to locate **Supplementary Materials** in the table of contents panel.

Course Website

[CourseLink](https://courselink.uoguelph.ca/shared/login/login.html) (powered by D2L's Brightspace) is the course website and will act as your classroom. It is recommended that you log in to your course website every day to check for announcements, access course materials, and review the weekly schedule and assignment requirements.

<https://courselink.uoguelph.ca/shared/login/login.html>

Learning Outcomes

Course Learning Outcomes

This course is an introduction to descriptive and inferential statistics. We will discuss experiments and observational studies, descriptive statistics, probability, random variables, discrete and continuous probability distributions, sampling distributions, confidence intervals and hypothesis tests for means, variances, and proportions, chi-square tests for count data, one-way ANOVA, and simple linear regression.

It is hoped that students will become familiar with some methods of data collection and analysis, be able to carry out some of these analyses using statistical software, and be able to effectively communicate the results.

By the end of this course, you should be able to:

1. Create and properly interpret numerical and graphical data summaries;
2. Properly interpret probability and carry out basic probability calculations;
3. Carry out probability calculations for various discrete and continuous probability distributions, and choose the appropriate probability distribution in different scenarios;
4. Explain statistical inference concepts, including sampling distributions, confidence intervals, and hypothesis tests;
5. Choose an appropriate statistical inference procedure in a variety of situations, carry out the procedure, and effectively communicate a proper interpretation of the results;
6. Explain the design of some basic experiments and observational studies, and describe how statistical conclusions differ between experiments and observational studies; and
7. Carry out calculations for statistical inference procedures using appropriate statistical computing software.

Teaching and Learning Activities

Course Structure

The concepts of this course are presented in 14 online units to be completed within 12 weeks. These units will help guide you in pacing yourself through the course materials.

The units are as follows:

- Unit 01: Introduction to Statistics
- Unit 02: Numerical and Graphical Data Summaries

- Unit 03: Introduction to Probability
- Unit 04: Discrete Probability Distributions
- Unit 05: Continuous Probability Distributions
- Unit 06: Sampling Distributions
- Unit 07: Confidence Intervals for a Single Population Mean
- Unit 08: Introduction to Hypothesis Testing
- Unit 09: Confidence Intervals and Hypothesis Tests for Two Means
- Unit 10: Confidence Intervals and Hypothesis Tests for Proportions
- Unit 11: Confidence Intervals and Hypothesis Tests for Variances.
- Unit 12: Chi-square Tests
- Unit 13: One-way ANOVA
- Unit 14: Introduction to Simple Linear Regression

Schedule

It is strongly recommended that you follow the course schedule provided below. The schedule outlines what you should be working on each week of the course and lists the important due dates for the assessments. By following the schedule, you will be better prepared to complete the assessments and succeed in this course.

Unit 01: Introduction to Statistics

Week 1 - Monday, January 10 to Sunday, January 16

Readings

- Website: Unit 01 Content
- Textbook:
 - Chapters 1 and 2

Activities

- Familiarize yourself with the course website by selecting **Start Here** on the navbar.
- Review **Outline** and **Assessments** on the course website to learn about course expectations, assessments, and due dates.
- Introduce yourself to your classmates in the **Class Introductions Discussion**.
- Complete the Exercises for Unit 01 (Chapters 1 and 2).

Unit 02: Numerical and Graphical Data Summaries

Week 2 - Monday, January 17 to Sunday, January 23

Readings

- Website: Unit 02 Content
- Textbook:
 - Chapter 3

Activities

- Complete the Exercises for Unit 02 (Chapter 3).
- Begin working on **Data Analysis Assignment 1**
Due: Wednesday, January 26 by 11:59 pm ET

Unit 03: Introduction to Probability

Week 3 - Monday, January 24 to Sunday, January 30

Readings

- Website: Unit 03 Content
- Textbook:
 - Chapter 4

Activities

- Complete the Exercises for Unit 03 (Chapter 4).
- Submit **Data Analysis Assignment 1**
Due: Wednesday, January 26 by 11:59 pm ET

Unit 04: Discrete Probability Distributions

Week 4 - Monday, January 31 to Sunday, February 6

Readings

- Website: Unit 04 Content
- Textbook:
 - Chapter 5

Activities

- Complete the Exercises for Unit 04 (Chapter 5).

Assessments

- **Test 1 (Done as a CourseLink quiz)**
Opens: Wednesday, February 2 at 11:59 am ET
Closes: Wednesday, February 2 at 11:59 pm ET

Unit 05: Unit 05: Continuous Probability Distributions & Unit 06: Sampling Distributions

Week 5 - Monday, February 7 to Sunday, February 13

Readings

- Website: Unit 05 and 06 Content
- Textbook:
 - Unit 05: Chapter 6 (Ignore 6.2.1 and 6.6)
 - Unit 06: Chapter 7

Activities

- Complete the Exercises for Unit 05 (Chapter 6).
- Complete the Exercises for Unit 06 (Chapter 7).

Unit 07: Confidence Intervals for a Single Population Mean

Week 6 – Monday, February 14 to Sunday, February 20

Readings

- Website: Unit 07 Content
- Textbook:
 - Chapter 8

Activities

- Complete the Exercises for Unit 07 (Chapter 8).

Winter Break – Monday, February 21 to Sunday, February 27

Unit 08: Introduction to Hypothesis Testing

Week 7 – Monday, February 28 to Sunday, March 6

Readings

- Website: Unit 08 Content
- Textbook:
 - Chapter 9

Activities

- Complete the Exercises for Unit 08 (Chapter 9).

Assessments

- **Test 2 (Done as a CourseLink quiz)**
Opens: Wednesday, March 2 at 11:59 am ET
Closes: Wednesday, March 2 at 11:59 pm ET

Unit 09: Confidence Intervals and Hypothesis Tests for Two Means

Week 8 – Monday, March 7 to Sunday, March 13

Readings

- Website: Unit 09 Content
- Textbook:
 - Chapter 10

Activities

- Complete the Exercises for Unit 09 (Chapter 10).
- Begin working on **Data Analysis Assignment 2**
Due: Wednesday, March 30 at 11:59 am ET

Unit 10: Confidence Intervals and Hypothesis Tests for Proportions

Week 9 – Monday, March 14 to Sunday, March 20

Readings

- Website: Unit 10 Content
- Textbook:
 - Chapter 11

Activities

- Complete the Exercises for Unit 10 (Chapter 11).
- Continue working on **Data Analysis Assignment 2**

Unit 11: Confidence Intervals and Hypothesis Tests for Variances.

Unit 12: Chi-square Tests

Week 10 – Monday, March 21 to Sunday, March 27

Readings

- Website: Unit 11 and 12 Content

- Textbook:
 - Unit 11: Chapter 12
 - Unit 12: Chapter 13

Activities

- Complete the Exercises for Unit 12 (Chapter 13).

Assessments

- **Test 3 (Done as a CourseLink quiz)**
 Opens: Wednesday, March 23 at 11:59 am ET
 Closes: Wednesday, March 23 at 11:59 pm ET
- Continue working on **Data Analysis Assignment 2**

Unit 13: One-way ANOVA

Week 11 – Monday, March 28 to Sunday, April 3

Readings

- Website: Unit 13 Content
- Textbook:
 - Chapter 14

Activities

- Complete the Exercises for Unit 13 (Chapter 14).

Assessments

- Submit **Data Analysis Assignment 2**
 Due: Wednesday, March 30 at 11:59 am ET

Unit 14: Introduction to Simple Linear Regression

Week 12 – Monday, April 4 to Friday, April 8

Readings

- Website: Unit 14 Content
- Textbook:
 - Chapter 15

Activities

- Complete the Exercises for Unit 14 (Chapter 15).

Assessments

The grade determination for this course is indicated in the following table. A brief description of each assessment is provided below. Select **Content** on the navbar to locate **Assessments** in the table of contents panel to review further details of each assessment. Due dates can be found under the Schedule heading of this outline.

Table 1: Course Assessments

Assessment Item	Weight
Term Test 1	15%
Term Test 2	15%
Term Test 3	15%
Data Analysis Assignment 1	12.5%
Data Analysis Assignment 2	12.5%
Online Final Exam	30%
Total	100%

Assessment Descriptions

Term Tests

There will be 3 term tests, in weeks 4, 7 and 10 that will be carried out via the quizzing tool in CourseLink. Each term test will open at 11:59 am ET on Wednesday, and close 12 hours later at 11:59 pm ET. No extensions will be granted. You may start the test at any time in that window, but once you start the quiz you will have 60 minutes to complete it and it must be completed by 11:59 pm ET.

Data Analysis Assignments

The Data Analysis Assignments will require you to create plots and to analyze data sets using the statistical software R, and write up the results in a clear and concise manner. These assignments will be submitted through CrowdMark.

Final Exam

The final exam may contain a combination of multiple choice, multiple select, numeric response, and written response questions. You are responsible for all the content of the course. Note that if you do not pass the Final Examination you cannot pass the course.

If your Final Examination grade is below 50% it will be your final grade in this course. For example, if you get 43% on the Final Examination, you will get 43% in this course – no matter how well you do on the other assessments.

The final exam will be delivered online via the **Quizzes** tool. The exam is 2 hours in length and will be held on **Tuesday, April 19, 2022**.

To accommodate students who may be located in various time zones, the exam will be available beginning at **2:30 pm** until **3:30 pm** . Eastern Time (ET). You can enter the exam at any point during this window of time but will only have 2 hours to complete it from when you start writing. For example, if you start writing the exam by **3:00 pm**, you will have until **5:00 pm** to complete it. After **3:30 pm** ET you will no longer be able to enter the exam environment.

Select **Content** on the navbar to locate **Assessments** in the table of contents panel to review further details of the final exam.

University of Guelph degree and associate diploma students must check [WebAdvisor](#) for their examination schedule. Open Learning program students must check the [Open Learning Program Final Examination Schedule](#) for their examination schedule.

<https://webadvisor.uoguelph.ca>

<http://opened.uoguelph.ca/student-resources/Open-Learning-Program-Final-Exam-Schedule>

<http://opened.uoguelph.ca/student-resources/final-exams>

Course Technology Requirements and Technical Support

CourseLink System Requirements

You are responsible for ensuring that your computer system meets the necessary [system requirements](#). Use the [browser check](#) tool to ensure your browser settings are compatible and up to date. (Results will be displayed in a new browser window).

<https://opened.uoguelph.ca/student-resources/system-and-software-requirements>

<https://courselink.uoguelph.ca/d2l/systemCheck>

Crowdmark

Crowdmark is an online testing and assessment software that is used in this course. Visit the Crowdmark website to review the [Crowdmark system requirements](#).

Technical Skills

As part of your online experience, you are expected to use a variety of technology as part of your learning:

- Manage files and folders on your computer (e.g., save, name, copy, backup, rename, delete, and check properties);
- Install software, security, and virus protection;
- Use office applications (e.g., Word, PowerPoint, Excel, or similar) to create documents;
- Be comfortable uploading and downloading saved files;
- Communicate using email (e.g., create, receive, reply, print, send, download, and open attachments);
- Navigate the CourseLink learning environment and use the essential tools, such as **Dropbox**, **Quizzes**, **Discussions**, and **Grades** (the instructions for this are given in your course);
- Access, navigate, and search the Internet using a web browser (e.g., Firefox, Internet Explorer); and
- Perform online research using various search engines (e.g., Google) and library databases.

Technical Support

If you need any assistance with the software tools or the CourseLink website, contact CourseLink Support.

CourseLink Support

University of Guelph

Day Hall, Room 211

Email: courselink@uoguelph.ca

Tel: 519-824-4120 ext. 56939

Toll-Free (CAN/USA): 1-866-275-1478

Walk-In Hours (Eastern Time):

Monday thru Friday: 8:30 am–4:30 pm

Phone/Email Hours (Eastern Time):

Monday thru Friday: 8:30 am–8:30 pm

Saturday: 10:00 am–4:00 pm

Sunday: 12:00 pm–6:00 pm

Course Specific Standard Statements

Acceptable Use

The University of Guelph has an [Acceptable Use Policy](https://www.uoguelph.ca/ccs/infosec/aup), which you are expected to adhere to.

<https://www.uoguelph.ca/ccs/infosec/aup>

Communicating with Your Instructor

During the course, your instructor will interact with you on various course matters on the course website using the following ways of communication:

- **Announcements:** The instructor will use **Announcements** on the Course Home page to provide you with course reminders and updates. Please check this section frequently for course updates from your instructor.
- **Ask Your Instructor Discussion:** Use this discussion forum to ask questions of your instructor about content or course-related issues with which you are unfamiliar. If you encounter difficulties, the instructor is here to help you. Please post general course-related questions to the discussion forum so that all students have an opportunity to review the response. To access this discussion forum, select **Discussions** from the **Tools** dropdown menu.
- **Email:** If you have a conflict that prevents you from completing course requirements, or have a question concerning a personal matter, you can send your instructor a private message by email. The instructor will respond to your email within 48 to 72 hours.

Netiquette Expectations

For distance education courses, the course website is considered the classroom and the same protections, expectations, guidelines, and regulations used in face-to-face settings apply, plus other policies and considerations that come into play specifically because these courses are online.

Inappropriate online behaviour will not be tolerated. Examples of inappropriate online behaviour include:

- Posting inflammatory messages about your instructor or fellow students;
- Using obscene or offensive language online;
- Copying or presenting someone else's work as your own;
- Adapting information from the Internet without using proper citations or references;
- Buying or selling term papers or assignments;

- Posting or selling course materials to course notes websites;
- Having someone else complete your quiz or completing a quiz for/with another student;
- Stating false claims about lost quiz answers or other assignment submissions;
- Threatening or harassing a student or instructor online;
- Discriminating against fellow students, instructors, and/or TAs;
- Using the course website to promote profit-driven products or services;
- Attempting to compromise the security or functionality of the learning management system;
- Sharing your username and password; and
- Recording lectures without the permission of the instructor.

Submission of Assignments to CrowdMark

The Data Analysis Assignment should be submitted electronically via the online **CrowdMark**.

Be sure to keep a back-up copy of all of your assignments in the event that they are lost in transition. In order to avoid any last-minute computer problems, your instructor strongly recommends you save your assignments to a cloud-based file storage (e.g., Google Docs), or send to your email account, so that should something happen to your computer, the assignment could still be submitted on time or re-submitted.

It is your responsibility to submit your assignments on time as specified on the Schedule. Be sure to check the technical requirements and make sure you have the proper computer, that you have a supported browser, and that you have reliable Internet access. Remember that **technical difficulty is not an excuse not to turn in your assignment on time**. Don't wait until the last minute as you may get behind in your work.

Late Policy

Extensions on the assignments will be considered for medical reasons or other extenuating circumstances. If you require an extension, discuss this with the instructor as soon as possible and well before the due date. Barring exceptional circumstances, extensions will not be granted once the due date has passed. These rules are not designed to be arbitrary, nor are they inflexible. They are designed to keep you organized, to ensure that all students have the same amount of time to work on assignments, and to help to return marked materials to you in the shortest possible time.

Obtaining Grades and Feedback

Unofficial assessment marks will be available in the **Grades** tool of the course website.

Your instructor will have grades posted online within 2 weeks of the submission deadline, if the assignment was submitted on time. Once your assignments are marked you can view your grades on the course website by selecting **Grades** from the **Tools** dropdown menu on the navbar. Your course will remain open to you for seven days following the last day of the final exam period.

University of Guelph degree students can access their final grade by logging into [WebAdvisor](#) (using your U of G central ID). Open Learning program students should log in to the [OpenEd Student Portal](#) to view their final grade (using the same username and password you have been using for your courses).

<https://webadvisor.uoguelph.ca>

<https://courses.opened.uoguelph.ca/portal/logon.do?method=load>

Rights and Responsibilities When Learning Online

For distance education (DE) courses, the course website is considered the classroom and the same protections, expectations, guidelines, and regulations used in face-to-face settings apply, plus other policies and considerations that come into play specifically because these courses are online.

For more information on your rights and responsibilities when learning in the online environment, visit [Rights and Responsibilities](#).

<http://opened.uoguelph.ca/student-resources/rights-and-responsibilities>

University Standard Statements

University of Guelph: Undergraduate Policies

As a student of the University of Guelph, it is important for you to understand your rights and responsibilities and the academic rules and regulations that you must abide by.

If you are a registered **University of Guelph Degree Student**, consult the [Undergraduate Calendar](#) for the rules, regulations, curricula, programs and fees for current and previous academic years.

If you are an **Open Learning Program Student**, consult the [Open Learning Program Calendar](#) for information about University of Guelph administrative policies, procedures and services.

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/>

<http://opened.uoguelph.ca/student-resources/open-learning-program-calendar>

Email Communication

As per university regulations, all students are required to check their uoguelph.ca e-mail account regularly: e-mail is the official route of communication between the University and its students.

When You Cannot Meet Course Requirements

When you find yourself unable to meet an in-course requirement due to illness or compassionate reasons, please advise your course instructor **in writing**, with your name, ID number and email contact.

University of Guelph Degree Students

Consult the [Undergraduate Calendar](#) for information on regulations and procedures for Academic Consideration.

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-ac.shtml>

Open Learning Program Students

Please refer to the [Open Learning Program Calendar](#) for information on regulations and procedures for requesting Academic Consideration.

<http://opened.uoguelph.ca/student-resources/open-learning-program-calendar>

Drop Date

University of Guelph Degree Students

Students will have until the last day of classes to drop courses without academic penalty. [Review the Undergraduate Calendar for regulations and procedures for Dropping Courses.](#)

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-drop.shtml>

Open Learning Program Students

Please refer to the [Open Learning Program Calendar](#).

<http://opened.uoguelph.ca/student-resources/open-learning-program-calendar>

Copies of Assignments

Keep paper and/or other reliable back-up copies of all assignments: you may be asked to resubmit work at any time.

Accessibility

University of Guelph Degree Students

The University promotes the full participation of students who experience disabilities in their academic programs. To that end, the provision of academic accommodation is a shared responsibility between the University and the student.

When accommodations are needed, the student is required to first register with Student Accessibility Services (SAS). Documentation to substantiate the existence of a disability is required, however, interim accommodations may be possible while that process is underway.

Accommodations are available for both permanent and temporary disabilities. It should be noted that common illnesses such as a cold or the flu do not constitute a disability.

Use of the SAS Exam Centre requires students to make a booking at least 14 days in advance, and no later than November 1 (fall), March 1 (winter) or July 1 (summer). Similarly, new or changed accommodations for online quizzes, tests and exams must be approved at least a week ahead of time.

For more information, contact Accessibility Services at 519-824-4120 ext. 56208, [email Accessibility Services](#) or visit the [Accessibility Services website](#).

Open Learning Program Students

If you are an Open Learning program student who requires academic accommodation, please [contact the Academic Assistant to the Director](#). Please ensure that you contact us before the end of the first week of your course (every semester) in order to avoid any delays in support. Documentation from a health professional is required for all academic accommodations. Please note that all information provided will be held in confidence.

If you require textbooks produced in an alternate format (e.g., DAISY, Braille, large print or eText), please [contact the Academic Assistant to the Director](#) at least two months prior to the course start date. If contact is not made within the suggested time frame, support may be delayed. It is recommended that you refer to the course outline before beginning your course in order to determine the required readings.

The provision of academic accommodation is a shared responsibility between OpenEd and the student requesting accommodation. It is recognized that academic accommodations are intended to “level the playing field” for students with disabilities.

jessica.martin@uoguelph.ca

Academic Misconduct

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community – faculty, staff, and students – to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. University of Guelph students have the responsibility of abiding by the University's policy on academic

misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection.

Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The [Academic Misconduct Policy](#) is detailed in the Undergraduate Calendar.

<https://www.uoguelph.ca/registrar/calendars/undergraduate/current/c08/c08-amisconduct.shtml>

Copyright Notice

Content within this course is copyright protected. Third party copyrighted materials (such as book chapters and articles) have either been licensed for use in this course, or have been copied under an exception or limitation in Canadian Copyright law.

The fair dealing exemption in Canada's Copyright Act permits students to reproduce short excerpts from copyright-protected materials for purposes such as research, education, private study, criticism and review, with proper attribution. Any other copying, communicating, or distribution of any content provided in this course, except as permitted by law, may be an infringement of copyright if done without proper license or the consent of the copyright owner. Examples of infringing uses of copyrighted works would include uploading materials to a commercial third party web site, or making paper or electronic reproductions of all, or a substantial part, of works such as textbooks for commercial purposes.

Students who upload to CourseLink copyrighted materials such as book chapters, journal articles, or materials taken from the Internet, must ensure that they comply with Canadian Copyright law or with the terms of the University's electronic resource licenses.

For more information about students' rights and obligations with respect to copyrighted works, review [Fair Dealing Guidance for Students](#).

http://www.lib.uoguelph.ca/sites/default/files/fair_dealing_policy_0.pdf

Plagiarism Detection Software

Students should be aware that faculty have the right to use software to aid in the detection of plagiarism or copying and to examine students orally on submitted work. For students found guilty of academic misconduct, serious penalties, up to and including suspension or expulsion from the University can be imposed.

Recording of Materials

Presentations which are made in relation to course work—including lectures—cannot be recorded or copied without the permission of the presenter, whether the instructor, a classmate or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

Disclaimer

Please note that the ongoing COVID-19 pandemic may necessitate a revision of the format of course offerings, changes in classroom protocols, and academic schedules. Any such changes will be announced via CourseLink and/or class email.

This includes on-campus scheduling during the semester, mid-terms and final examination schedules. All University-wide decisions will be posted on the [COVID-19 website](#) and circulated by email.

<https://news.uoguelph.ca/2019-novel-coronavirus-information/>

Illness

Medical notes will not normally be required for singular instances of academic consideration, although students may be required to provide supporting documentation for multiple missed assessments or when involving a large part of a course (e.g., final exam or major assignment).

Covid-19 Safety Protocols

For information on current safety protocols, follow these links:

[How U of G Is Preparing for Your Safe Return](#)

[Guidelines to Safely Navigate U of G Spaces](#)

Please note, these guidelines may be updated as required in response to evolving University, Public Health or government directives.

<https://news.uoguelph.ca/return-to-campus/how-u-of-g-is-preparing-for-your-safe-return/>

<https://news.uoguelph.ca/return-to-campus/spaces/#ClassroomSpaces>